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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,053	07/08/2003	Shalini Yajnik	33078/US/2	7518

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ANDREWS KURTH LLP
1350 I STREET, N.W.
SUITE 1100
WASHINGTON, DC 20005

EXAMINER	
CHAN, SAI MING	

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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/614,053	YAJNIK ET AL.
	Examiner	Art Unit
	Sai-Ming Chan	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) and 120 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 10, 12, 16 and **19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Srivastava (U.S. Patent Publication # 20060233155)**, in view of **Coates et al. (U.S. Patent # 7203731).**

Consider **claim 1,** Srivastava clearly discloses and shows a method for routing and caching packets of data in a multicast network (fig. 1A), comprising: receiving a packet having a header section and a payload section (fig. 2A (202 and 208 (packet contains header and content (payload) sections)); inspecting the payload section (paragraph 17, lines 1-4) of the packet in a network core for use in determining how to route the packet (paragraph 18, lines 6-9) to subscribers; selectively routing the packet (paragraph 18, lines 9-13) based upon the inspecting.

However, Srivastava does not specially disclose a locally caching data.

In the same field of endeavor, Coates et al. clearly show a locally caching data from the packet in a core routing node in the network core (fig. 1 (130), fig. 17 (1710),

column 21, lines 52-67, column 22, lines 1-2), wherein the core routing node is located upstream from an edge routing node (fig. 17 (1730), column 21, lines 52-66 (cdn is close to the edge)) in a direction moving away from a subscriber machine (fig. 17 (1740)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network for routing and caching, as taught by Srivastava, and allow data to be locally cached, as taught by Coates et al. in order to improve the efficiency of data retrieval.

Consider **claim 2**, and **as applied to claim1 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the method, further including performing the inspecting step (paragraph 18, lines 6-9) at a router.

Consider **claim 3**, and **as applied to claim1 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the method wherein the inspecting step includes applying a filter (paragraph 17, lines 1-4 (edge router compares the label in the packet with its label forwarding information base (paragraph 18, lines 1-3) to determine where and how to forward the frame)) to information in the payload section.

Consider **claim 4**, and **as applied to claim 3 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the method, further including propagating the filter (paragraph 18, lines 1-3 edge router compares the label in the packet with its label forwarding information base to determine where and how to forward the frame ()) to a router in the network for use in performing the inspecting.

Consider **claim 5**, and **as applied to claim 1 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the method, further including programming a router in the network for performing the receiving, inspecting, and routing steps (paragraph 18, lines 3-13).

Consider **claim 6**, and **as applied to claim 1 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the method wherein the inspecting step includes inspecting attributes for use in determining how to route the packet (paragraph 18, lines 6-9).

Consider **claim 7**, and **as applied to claim 1 above**,

claim 16, and **as applied to claim 12 above**,

Srivastava, as modified by Coates et al., clearly discloses and shows the method as described.

However, Srivastava, as modified by Coates et al., fails to show the time marking of the cached data.

In the same field of endeavor, Coates et al. clearly show the time marking (fig. 26 (2760),column 27, lines 19-34 (time-out parameter)) of the cached data.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Coates et al., and the marking of the cached data, as taught by Coates et al., so that data content sent to clients will always be up-to-date.

Consider **claim 10**, and **as applied to claim 1 above**,

Srivastava, as modified by Coates et al., clearly discloses and shows the method as described.

However, Srivastava, as modified by Coates et al., fails to show that data is cached at the edge router.

In the same field of endeavor, Coates et al. clearly show the data is locally cached from the packet at an edge routing node (column 21, lines 20-27 (local cache at the edges)).

Therefore it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Coates et al., and cache the data at the edge router, as taught by Coates et al., in order to enhance the data transmission efficiency.

Consider **claim 12**, , Srivastava, clearly discloses and shows the network, wherein the router inspects the payload (fig. 2A (202 and 208 (packet contains header and content (payload) sections))) section of the packets in a network core for use in determining how to route the packets (paragraph 18, lines 6-9) to subscribers; and selectively routes the packets (paragraph 18, lines 9-13) based upon the inspecting.

However, Srivastava, does not specially disclose the edge and intelligent routers, cache manager and local caching of packet data.

In the same field of endeavor, Coates et al. clearly show edge routers (fig. 17 (1730)), intelligent routers (column 3, lines 3-18 (intelligent storage nodes)) and the network further comprise a core routing node (fig. 17(1710), column 21, lines 52-67, column 22, lines 1-2) located in the network core, and a cache manager (abstract (DOSMs)), which is operatively connected to the intelligent router (abstract (intelligent nodes)). The cache manager also includes instructions for:

locally caching data from the packet in a core routing node in the network core (fig. 1 (130), fig. 17 (1710), column 21, lines 52-67, column 22, lines 1-2), wherein the core routing node is located upstream from an edge routing node (fig. 17 (1730),

column 21, lines 52-66 (cdn is close to the edge)) in a direction moving away from a subscriber machine (fig. 17 (1740)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network for routing and caching, as taught by Srivastava, and allow data to be locally cached, as taught by Coates et al. in order to improve the efficiency of data retrieval.

Consider **claim 19,** Srivastava clearly discloses and shows an apparatus for routing and caching packets of data in a multicast network, the apparatus including a plurality of processors (fig. 1A) and instructions for: receiving a packet having a header section and a payload section (fig. 2A (202 & 208 (packet contains header and content (payload) sections))); inspecting the payload section of the packet (paragraph 17, lines 1-4) in a network core for use in determining how to route the packet (paragraph 18, lines 6-9) to subscribers; selectively routing the packet (paragraph 18, lines 9-13) based upon the inspecting.

However, Srivastava does not specially disclose a locally caching data from the packet in the network core.

In the same field of endeavor, Coates et al. clearly show a locally caching data from the packet in a core routing node in the network core (fig. 1 (130), fig. 17 (1710), column 21, lines 52-67, column 22, lines 1-2), wherein the core routing node is located upstream from an edge routing node (fig. 17 (1730), column 21, lines 52-66 (cdn is

close to the edge)) in a direction moving away from a subscriber machine (fig. 17 (1740)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network for routing and caching, as taught by Srivastava, and to cache data in a local server, as taught by Coates et al., so that the efficiency of data retrieval will be greatly enhanced.

Claims 8-9 and **17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Srivastava (U.S. Patent Publication # 20060233155),** in view of **Coates et al. (U.S. Patent #7203731),** and further in view of **Lango (U.S. Patent # 6813690).**

Consider **claim 8**, and **as applied to claim 1 above**,

claim 17, and **as applied to claim 12 above**,

Srivastava, as modified by Lewin et al., clearly discloses and shows the method as described. However, Srivastava, as modified by Lewin et al., fails to show the indexing of the cached data.

In the same field of endeavor, Lango et al. clearly show the indexing (column 18, lines 58-64; fig. 5) of the cached data.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Coates et al., and the cached data is indexed, as taught by Lango, in order to enhance data retrieval.

Consider **claim 9**, and **as applied to claim 1 above**,

claim 18, and **as applied to claim 12 above**,

Srivastava, as modified by Lewin et al., clearly discloses and shows the method as described. However, Srivastava, as modified by Coates et al., fails to show that the server receives a request for data and determines if the cached data is the requestor wants.

In the same field of endeavor, Lango et al. clearly show the server receives a request for data (column 3, lines 32-34); and determines whether the cached data satisfies (column 3, lines 34-51) the request.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Coates et al., and provide the ability to handle request and verify the cached data before transmission, as taught by Lango, in order to guarantee the accuracy of data content sent.

Claims 11, 15 and **20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Srivastava (U.S. Patent Publication # 20060233155),** in view of **Coates et al. (U.S. Patent #7203731),** and further in view of **Lewin (U.S. Patent #7010578).**

Consider **claim 11**, and **as applied to claim 1 above**, Srivastava, as modified by Lewin et al., clearly discloses and shows the method as described. However, Srivastava, as modified by Coates et al., fails to show that expired cached data will be removed or refreshed.

In the same field of endeavor, Lewin et al. clearly show the cached data after the expiration (column 4, lines 61-62) of a time frame T will be removed.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Lewin et al., and remove expired

cached data, as taught by Lewin et al., in order to guarantee that the data content is always up-to-date.

Consider **claim 15**, and **as applied to claim 12 above**, Srivastava, as modified by Lewin et al., clearly discloses and shows the network as described. However, Srivastava, as modified by Coates et al., fails to show the channel manager and the channels.

In the same field of endeavor, Lewin et al. clearly a plurality of channel manager (fig. 3 (NOC)) that provide properties for a plurality of channels (fig. 2 (links between 202 and edge server #2; links between 202 and client's servers; links between 202 and computer).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network for routing and caching, as taught by Srivastava, as modified by Coates and Lewin, and a channel linkage, as taught by Lewin et al. so that the load and distribution of resources are enhanced.

Consider **claim 20,** and **as applied to claim 19 above,** Srivastava, as modified by Lewin et al., clearly discloses and shows the method as described. However, Srivastava, as modified by Coates et al., fails to show the two processors; one caches the data locally and the other perform inspecting and route selection.

In the same field of endeavor, Lewin et al. clearly discloses and shows the apparatus, wherein the plurality of processors (fig. 1(102a and 102b)) include a first processor (fig. 2 (202)) and a second processor (fig. 2 (Edge server #2), wherein the first processor executes the inspecting and selectively routing instructions (fig.2 (Edge server #2)) and the second processor executes the locally caching instruction (fig. 2 (steps 3 and 4)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network for routing and caching, as taught by Srivastava, as modified by Coates, and processors that cache data, inspect request and perform route selection, as taught by Lewin et al., so that the efficiency of data transmission will be greatly improved.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Srivastava (U.S. Patent Publication # 20060233155),** in view of **Coates et al. (U.S. Patent #7203731),** and in view of **Lewin (U.S. Patent #7010578),** and further in view of **Lango (U.S. Patent # 6813690).**

Consider **claim 13**, and **as applied to claim 12 above**, Srivastava, as modified by Coates et al., clearly discloses and shows the network as described.

However, Srivastava, as modified by Coates et al., fails to show the agent and the edge servers.

In the same field of endeavor, Lewin et al. clearly show an agent (fig. 3 (mapping agent)), operatively connected to the edge routing node (fig. 3 (edge servers), as described.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and caching, as taught by Srivastava, as modified by Lewin et al., and an agent connected to the edge server, as taught by Lewin et al. so that incoming data or messages are mapped to the corresponding router.

However, Srivastava, as modified by Coates and Lewin, fails to show how the cached data is located, retrieved and processed.

In the same field of endeavor, Lango et al. clearly show the instructions for: determining (column 3, lines 22-32) location of cached data; retrieving cached data (column 3, lines 32-51) from the local cache; and processing retrieved cache data (column 3, lines 32-51).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a multicast network with routing and

caching, as taught by Srivastava, as modified by Coates and Lewin, and to have an agent for the edge server, as taught by Lewin et al. and to locate and retrieve cached data, as taught by Lango, so that data content can be sent efficiently.

Conclusion

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
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Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Sai-Ming Chan
S.C./ sc

December 18, 2007

Seema S. Rao 12/19/07
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